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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,895	09/22/2003	Takanori Kamoto	BJS-1114-190	6800
23117 7590 03/23/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER SHOSHO, CALLIE E	
			ART UNIT	PAPER NUMBER
			1714	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/23/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/664,895

Applicant(s)

KAMOTO ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,7-10 and 12-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,7-10 and 12-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 1/3/07.

The new grounds of rejection set forth below are necessitated by applicants' amendment and thus, the following action is final.

**Claim Rejections - 35 USC § 102**

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 4, 9-10, 15-17, 22-23, and 26-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Breton et al. '209 (U.S. 5,977,209) taken in view of the evidence given in Breton et al. '108 (U.S. 6,384,108), Nagashima et al. (U.S. 4,625,220), and Endo et al. (U.S. 4,723,129).

The rejection is adequately set forth in paragraph 3 of the office action mailed 10/5/06 and is incorporated here by reference.

Further, it is noted that for specific examples of the sulfonated polyester, Breton et al. '209 refers to U.S. serial No. 08/536,236 which corresponds to Breton et al. '108 which discloses sulfonated polyester obtained from 50 mol% diol such as alkylene glycol and 50 mol% diester which comprises 2.5-15 mol% sulfonated aromatic moiety, i.e. aromatic dicarboxylic acid having metal sulfonate group, and 35-47.5 mol% diester such as dimethyl terephthalate, i.e. aromatic dicarboxylic acid not having metal sulfonate group, dimethyl isophthalate, dimethyl naphthalenedicarboxylic acid, and mixtures thereof (col.4, lines 48-61). Thus, it is clear that the

sulfonated polyester of Breton et al. '209 includes that obtained from three or more dicarboxylic acids wherein one dicarboxylic acid is the aromatic dicarboxylic acid having metal sulfonate group and the other dicarboxylic acids are obtained from mixtures, i.e. 2 or more, of diesters that include aromatic dicarboxylic acid not having metal sulfonate group.

**Claim Rejections - 35 USC § 103**

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. '209 (U.S. 5,977,209) in view of Sharma et al. '883 (U.S. 5,464,883).

The rejection is adequately set forth in paragraph 6 of the office action mailed 10/5/06 and is incorporated here by reference.

6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. '209 (U.S. 5,977,209) in view of Johnson et al. (U.S. 5,922,118).

The rejection is adequately set forth in paragraph 7 of the office action mailed 10/5/06 and is incorporated here by reference.

7. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. '209 (U.S. 5,977,209) in view of Erdtmann et al. (U.S. 6,533,408).

The rejection is adequately set forth in paragraph 8 of the office action mailed 10/5/06 and is incorporated here by reference.

8. Claims 1, 4, 9-10, 15-17, 22-23, and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. '209 (U.S. 5,977,209) in view of Breton et al. '108 (U.S. 6,384,108), Nagashima et al. (U.S. 4,625,220), and Endo et al. (U.S. 4,723,129).

The rejection is adequately set forth in paragraph 9 of the office action mailed 10/5/06 and is incorporated here by reference.

Further, it is noted that for specific examples of the sulfonated polyester, Breton et al. '209 refers to U.S. serial No. 08/536,236 which corresponds to Breton et al. '108 which discloses sulfonated polyester obtained from 50 mol% diol such as alkylene glycol and 50 mol% diester which comprises 2.5-15 mol% sulfonated aromatic moiety, i.e. aromatic dicarboxylic acid having metal sulfonate group, and 35-47.5 mol% diester such as dimethyl terephthalate, i.e. aromatic dicarboxylic acid not having metal sulfonate group, dimethyl isophthalate, dimethyl naphthalenedicarboxylic acid, and mixtures thereof (col.4, lines 48-61). Thus, it is clear that the sulfonated polyester of Breton et al. '209 includes that obtained from three or more dicarboxylic acids wherein one dicarboxylic acid is the aromatic dicarboxylic acid having metal sulfonate group and the other dicarboxylic acids are obtained from mixtures, i.e. 2 or more, of diesters that include aromatic dicarboxylic acid not having metal sulfonate group.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. '209 in view of Breton et al. '108, Nagashima et al., and Endo et al. as applied to claims 1, 4, 9-10, 15-17, 22-23, and 26-31 above, and further in view of Sharma et al. '883 (U.S. 5,464,883).

The rejection is adequately set forth in paragraph 10 of the office action mailed 10/5/06 and is incorporated here by reference.

10. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. '209 in view of Breton et al. '108, Nagashima et al., and Endo et al. as applied to claims 1, 4, 9-10, 15-17, 22-23, and 26-31 above, and further in view of Johnson et al. (U.S. 5,922,118).

The rejection is adequately set forth in paragraph 11 of the office action mailed 10/5/06 and is incorporated here by reference.

11. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. '209 in view of Breton et al. '108, Nagashima et al., and Endo et al. as applied to claims 1, 4, 9-10, 15-17, 22-23, and 26-31 above, and further in view of Erdtmann et al. (U.S. 6,533,408).

The rejection is adequately set forth in paragraph 12 of the office action mailed 10/5/06 and is incorporated here by reference.

12. Claims 1, 4, 9-10, 15-16, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foucher et al. (U.S. 2003/0018100) in view of Koitabashi et al. (U.S. 6,454,402).

The rejection is adequately set forth in paragraph 13 of the office action mailed 10/5/06 and is incorporated here by reference.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Foucher et al. in view of Koitabashi et al. as applied to claims 1, 4, 9-10, 15-16, and 30-31 above, and further in view of Sharma et al. '883 (U.S. 5,464,883).

The rejection is adequately set forth in paragraph 14 of the office action mailed 10/5/06 and is incorporated here by reference.

14. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foucher et al. in view of Koitabashi et al. as applied to claims 1, 4, 9-10, 15-16, and 30-31 above, and further in view of Johnson et al. (U.S. 5,922,118).

The rejection is adequately set forth in paragraph 15 of the office action mailed 10/5/06 and is incorporated here by reference.

15. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foucher et al. in view of Koitabashi et al. as applied to claims 1, 4, 9-10, 15-16, and 30-31 above, and further in view of Erdtmann et al. (U.S. 6,533,408).

The rejection is adequately set forth in paragraph 16 of the office action mailed 10/5/06 and is incorporated here by reference.

16. Claims 18-21 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reem et al. (U.S. 6,715,869) in view of either Breton et al. '108 (U.S. 6,384,108) or Foucher et al. (U.S. 2003/0018100).

The rejection is adequately set forth in paragraph 17 of the office action mailed 10/5/06 and is incorporated here by reference.

#### **Response to Arguments**

17. Applicants' arguments filed 1/3/07 have been fully considered but they are not persuasive.

Specifically, applicants argue that Breton et al. '209 and Breton et al. '108 are no longer relevant references against the present claims given that there is no disclosure in either reference of polyester obtained from three or more dicarboxylic acids as presently claimed.

However, it is noted that for specific examples of the sulfonated polyester, Breton et al. '209 refers to U.S. serial No. 08/536,236 which corresponds to Breton et al. '108 which discloses sulfonated polyester obtained from 50 mol% diol such as alkylene glycol and 50 mol% diester which comprises 2.5-15 mol% sulfonated aromatic moiety, i.e. aromatic dicarboxylic acid having metal sulfonate group, and 35-47.5 mol% diester such as dimethyl terephthalate, i.e. aromatic dicarboxylic acid not having metal sulfonate group, i.e. dimethyl isophthalate, dimethyl naphthalenedicarboxylic acid, and mixtures thereof (col.4, lines 48-61). Thus, it is clear that the sulfonated polyester of Breton et al. '209 includes that obtained from three or more dicarboxylic acids wherein one dicarboxylic acid is the aromatic dicarboxylic acid having metal sulfonate



group and the other dicarboxylic acids are obtained from mixtures, i.e. 2 or more, of diesters that include aromatic dicarboxylic acid not having metal sulfonate group.

Applicants also argue that there is no disclosure in either Breton et al. '209 or Breton et al. '108 of the number average molecular weight of the polyester as presently claimed and that each reference teaches different molecular weight.

However, as noted by applicants, Breton et al. '209 discloses the use of polyester possessing number average molecular weight of 400-500 which clearly overlaps the presently claimed molecular weight. Although the overlap is only at one point, the fact remains that there is overlap.

While Breton et al. '209 discloses number average molecular weight of 400-5000, it is noted that the number average molecular weight disclosed by Breton et al. '209 is the molecular weight of one preferred embodiment of polyester. However, Breton et al. '209 is not limited to this one polyester and refers to Breton et al. '108 for further examples of polyesters.

With respect to Breton et al. '108, it is noted that it is disclosed that the polyester possesses molecular weight of 500-50,000. Although it is not clear if the molecular weight is weight average or number average, if the molecular weight is number average, there is clear overlap with claimed molecular weight, i.e. 50,000, while if the molecular weight is weight average, given the relationship between weight average molecular weight ( $M_w$ ) and number average molecular weight ( $M_n$ ), i.e.  $M_w/M_n > 1$ , it is clear that the number average molecular weight of Breton et al. '108 would overlap that presently claimed.

Thus, it is the examiner's position that both Breton et al. '209, which includes the disclosure of the polyesters of Breton et al. '108, does meet the requirements of the present claim with respect to the number average molecular weight of the polyester.

Applicants also argue that Foucher et al. is not a relevant reference against the present claims given that the amount of aromatic dicarboxylic acid having metal sulfonate group contained in the polybasic carboxylic acid ingredient falls outside the scope of the present claims. As evidence to support this position, applicants point to example 1 of Foucher et al. and argue that the polyester of this example comprises 42.9 mol% aromatic dicarboxylic acid having metal sulfonate group.

However, it is not clear how applicants calculated the amount of aromatic dicarboxylic acid having metal sulfonate group in example 1 of Foucher et al. It is noted that the polyester of example 1 is obtained from 368.6 g dimethyl terephthalate, 52 g sodium dimethylsulfoisophthalate, and 13.31 g aspartic acid from which it is calculated, using the molecular weight of each compound, that there is present 1.9 moles dimethyl terephthalate ( $368.6/194.18$ ), 0.153 moles sodium dimethylsulfoisophthalate ( $52/339.96$ ), and 0.1 moles aspartic acid ( $13.31/133.04$ ) from which it is calculated that, based on the polybasic carboxylic acid ingredient, there is present approximately 7.1 mol% ( $0.153/2.15$ ) sodium dimethylsulfoisophthalate. Thus, it is not clear how applicants calculated that the polyester contained 42.9 mol% aromatic dicarboxylic acid having metal sulfonate group, i.e. sodium dimethylsulfoisophthalate. Clarification is requested.

Further, attention is drawn to paragraph 36 of Foucher et al. that disclose that the polyester comprises 1-10 mol% sulfo diacid, i.e. aromatic dicarboxylic acid having metal sulfonate group.

Applicants also argue that the glass transition temperature (Tg) disclosed by Foucher et al. is for polyester obtained from two dicarboxylic acids not three as presently claimed.

However, attention is drawn to paragraph 38 of Foucher et al. that discloses polyester that is copoly (1,2-propylene terephthalate)-copoly(1,2-propylene -sodio-5-sulfoisophthalate)-copoly(1,2-propylene-aspartate) and that such polyester possesses Tg of 50-65 °C. Such polyester is obtained from three dicarboxylic acids, i.e. organic diacid, sulfonated diacid, and amine containing organic diacid.

Applicants also argue that claims 18-21 and 24-25 are patentable over Reem et al. and Foucher et al. for the same reasons the examiner appears to have acknowledged that claim 1 is patentable over these references given that the examiner did not reject claim 1 over the combination of Reem et al. and Foucher et al.

Although the examiner did not reject claim 1 using the combination of Reem et al., Foucher et al., and Koitabashi et al., this does not make the rejection of claims 18-21 and 24-25 utilizing such combination of references improper.

It is noted that claims 18-21 and 24-25 are drawn to recording method comprising ink set or ink set itself while claim 1 is drawn to ink. Reem et al. is utilized in view of its teaching of ink set, however, there is no disclosure in Reem et al. of polyester as presently claimed. While claim 1 could have been rejected using Reem et al. in combination with Foucher et al. and Koitabashi

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et, the examiner considered such rejection redundant given that such claims were already rejected using Foucher et al. in combination with Koitabashi et al. and given that Reem et al. is not necessary to meet the requirements of claim 1.

That is, given that Reem et al. is not necessary to meet the limitations of present claim 1, given that claim 1 does not require ink set and given that claim 1 is already rejected using combination of Foucher et al. and Koitabashi et al., the combination of Reem et al. with Foucher and Koitabashi et al. was utilized against only those claims that required ink set, namely, claims 18-21 and 24-25.

In light of the above, it is the examiner's position that claims 18-21 and 24-25 are properly rejected using the combination of Reem et al. with Foucher et al. and Koitabashi et al.

### **Conclusion**

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
3/17/07